

RECEIVED
CENTRAL FAX CENTER

OCT 13 2006

REMARKS

The Office Action dated July 13, 2006 has been received and reviewed by the applicant. Claims 1-7 and 19-24 are currently pending in the application. Claims 1-7 and 19-24 stand rejected.

In section 3 of the Office Action mailed July 13, 2006, the examiner has rejected claims 1-7 and 19-24 under 35 USC § 103(a) as being unpatentable over U.S. Patent Publication No. 2001/0017382 to Rhodes et al. (hereinafter "Rhodes") in view of U.S. Patent No. 6,639,293 to Furumiya et al. (hereinafter "Furumiya").

The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to specify that the substrate structure of Rhodes include a heavily doped substrate as suggested by Furumiya to arrive at the claimed invention. This rejection is respectfully traversed.

The instant invention claims a substrate, forming a first layer on the substrate and forming a first well over the first layer. Both the first layer and the first well are of a first polarity type. A first oxide layer is over and on the surface of the first well. A diode electrical structure of a second polarity type is also formed directly on the first well leaving an intervening portion of the exposed well between the diode electric structure and the first oxide layer.

Rhodes fails to teach or suggest a first oxide layer directly over and on the surface of the first well as claimed by the instant invention. The reference discloses a p-type region 15 formed between the oxide layer 16 and the well 27 (see Fig. 2-9 and paragraphs 0027 and 0037). Furthermore, Rhodes utilizes an additional process step by forming the p-type region between the well and oxide layer to space the oxide region from the n-type region.

By contrast the instant invention achieves forming an intervening portion of the well between the diode electric structure and the oxide layer without the need for the additional process steps required by Rhodes. Applicants greatly thank the Examiner for appreciating that the omission of p-well patterning advantageously simplifies the fabrication process (P. 5 of the Office Action mailed July 13, 2006). This advantage is claimed in terms of its positive features as opposed to a negative limitation. The instant invention claims that the first oxide layer is formed on the surface of the first well. Unlike the term "over," the term "on" limits the location of the oxide layer to being directly on the surface of

the first well with no intervening layers between the two. The reference fails to teach this limitation. Therefore, it is respectfully requested that Rhodes does not teach or suggest the instant invention as claimed.

Regarding claims 5 and 19, the Examiner states that Rhodes fails to teach a heavily doped substrate of a first polarity, a first epitaxial layer of a first polarity on the substrate, and a well of a first polarity over the first layer. The Examiner indicates that Furumiya teaches this limitation.

Furumiya teaches an imaging device with a p-type layer having a higher impurity concentration than the p⁺-layer below it. Furumiya utilizes p⁺-type isolation regions between the oxide film and upper surface of the p-type layer (Col. 6, lines 42-44; Fig. 4-5). Furumiya fails to teach or suggest forming an oxide film directly on the surface of the p-type layer as claimed by the instant invention. Therefore, the reference fails to teach all the limitations of the claimed invention.

Neither reference, alone or in combination, teaches or suggests forming an oxide layer directly on the surface of the first well with an opening exposing a portion of the first well as claimed by the instant invention. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, reconsideration and favorable action are respectfully solicited.

Respectfully submitted,


Attorney for Applicant(s)
Registration No. 36,390

Peyton C. Watkins/lam
Rochester, NY 14650
Telephone: 585-477-8282
Facsimile: 585-477-4646

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.